

A NEW CHALCIDOID GENUS AND SPECIES OF
THE FAMILY MYMARIDÆ FROM ILLINOIS,
PARASITIC ON THE EGGS OF THE WEEVIL
TYLODERMA FOVEOLATUM (SAY).

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.URBANA, ILLINOIS.

CHALCIDOIDEA.

Family MYMARIDÆ.

Subfamily MYMARINÆ.

Tribe ANAPHIRINI.

Anaphoidea, new genus.

Type.—*Anaphoidea sordidata* new species, described below.

Normal position.

Normal for the tribe and moderate in size; antennal club divided. Allied with and resembling the genera *Anaphes* Haliday, *Anagrus* Haliday and *Paranagrus* Perkins.

Female.—Head (cephalic aspect) rounded, slightly wider than long, the face subquadrate and broad, concave, the eyes over half the length of the cheeks, the face on each side with a narrow sulcus running from vertex to clypeus along the inner (mesal) margins of the eyes and continued (dorsal aspect) caudad around the mesal eye margins, then laterad and ventro-cephalad following around the outer (lateral) eye margins; the sulci of each side are joined by a similar but transverse sulcus across the cephalic margin of the vertex or just preceding that margin. Apical (ventral) margin of clypeus regularly concave, entire; clypeal sutures obsolete. Lateral aspect of head elliptical ovate in outline, the eyes ovate; scapes of the antennæ projecting above (dorsad) the line of the vertex. Vertex wide between the eyes, rectangular, widening caudad, sloping gently cephalad; a fourth wider than long, its cephalic margin subacute, straight, its caudal margin slightly concave, subobtuse; plane of the vertex somewhat convex caudad, the three ocelli in a flatly curved line across the caudal third, the lateral ocelli not touching the eye margins; head distinctly wider than the greatest width of the thorax, non-punctate, finely lined. Antennæ inserted somewhat above (dorsad) the middle of the face, five-eighths the distance up the eye margins, hence distinctly dorsad of an imaginary line drawn between the ventral ends of the eyes, their bulbs widely separated, near the eye margins, at least three times further from each other than each is from the respective eye margin, 10-jointed, capitate, the funicle filiform, the club 2-jointed, ovate and

forming a head to the funicle, the proximal funicle joint small, distinctly shorter and narrower than the pedicel and much shorter than any of the following joints, somewhat like a ring-joint; scape usual. Mandibles acutely tridentate, the mesal (inner) tooth shortest, the lateral two distinctly larger, the intermediate tooth slightly longer, longest of the three.

Pronotum narrow, barely visible from dorsal aspect. Parapsidal furrows distinct, complete, widely separated; axillæ obscure; scutellum large, longer than the mesoscutum, peltate, non-punctate, convex; mesopostscutellum narrow, curved. Metanotum short at the meson, lengthening considerably laterad, the minute round spiracle borne in the center of the dorso-lateral aspect at the outer apex of a delicate V-shaped sulcus whose arms diverge caudomesad; this sulcus is included within a larger V-shaped sulcus whose arms point in the same direction and whose apex is cephalo-laterad of the spiracle. (Direct dorsal aspect of metanotum hidden.) Thorax slightly shorter than the abdomen.

Abdomen ovate or egg-shaped, sessile, the second segment longest, not more than a fifth of the total length of the abdomen, segments 3 and 4 subequal, each a fourth shorter than segment 2, the caudal end of segment 4 reaching to about the middle of the abdomen; segment 5 still shorter; caudal margins of segments 2-5 straight. Ovipositor issuing from the caudal tip end of the abdomen, but inserted far cephalad as in other Chalcidoidea.

Legs normal; trochanters 2-jointed, tarsi 4-jointed; tibial spurs single, moderate, the anterior tibial spur longer, stronger, forked near tip, the two tines of the fork slender, acuminate. Tarsal joints subequal, longer than the tibial spurs, the proximal and distal joints more nearly equal and slightly longer than the second and third joints. The usual row of stiff bristles in juxtaposition to the cephalic tibial spur present along the ventral surface of the proximal joint of the cephalic tarsi forming with the tibial spur, the antennal comb or cleaner. Cephalic coxæ more globular than the conical intermediate coxæ.

Forewings normal, with discal cilia which are moderately long and coarse and with moderately long marginal cilia; the usual dilatation or excision along the caudal margin near the base of the wing; delicately fumated; marginal vein not lengthened, about three times longer than broad. Posterior wings delicately petiolate, feather-shaped, with complete marginal cilia; discal cilia sparse; delicately fumated.—From recently killed, unmounted specimens, excepting in the cases of the wings, antennæ, legs and mandibles which were described from specimens mounted in xylol-balsam. ($\frac{2}{3}$ -inch objective, 1-inch optic, Bausch and Lomb.)

Male.—The same as the female, excepting the more rounded abdomen and the longer, slender filiform antennæ which are 12-jointed, the joints not varying much in length. Intromittent organ when exerted long, slender and curved, simple.

A genus agreeing closely with *Anaphes* Haliday in general habitus, wing venation and other characters, but differing from it in

having in the female an additional antennal joint, the club being divided obliquely; the males are similar to the males of *Anaphes*. It need not be confused with either *Anagrus* Haliday or *Paranagrus* Perkins if attention is given to venation and antennal characters, the antennæ of both genera being 9-jointed in the female, 13-jointed in the male and in the female of *Paranagrus* the proximal funicle joint is noticeably lengthened so as to be nearly equal to the others, not distinctly, abruptly shorter than the second funicle joint as in the other genera mentioned. The type species is described in following:

***Anaphoidea sordidata*, new species.**

Female.—Length, 0.85 mm., average. Moderately large. Visible to naked eye.

Body uniformly deep shining black with some purplish, the abdomen with some brownish, the eyes and ocelli dark garnet, not much lighter than the body, the antennæ dusky black, excepting the scape and pedicel which are pallid yellowish, darker dorsad and ventrad, the funicle and club showing a light close, grayish pubescence. Coxæ concolorous with the body; trochanters pallid; the remaining portions of the legs neutral yellowish but the femora and lateral aspect of the posterior tibiæ are distinctly darker to dusky; distal tarsal joint dusky black. Venter concolorous.

Face delicately irregularly longitudinally lined with fine close striæ, as are also the cheeks, the striations on the vertex more regular, transverse, uniform; the thoracic nota similarly lined, longitudinally so, more regular and uniform on the long mesoscutellum; eyes comparatively coarse, bearing a few minute hairs. The lateral ocelli about their own width from the respective eye margins and separated from the latter by portions of a narrow sulcus; lateral ocelli nearly twice farther apart from each other than each is from the cephalic ocellus and twice the distance from the latter than each is from the respective eye margin; lateral ocelli about three-fourths their own width from the caudal margin of the vertex. Abdomen with polygonal sculpturing. Legs hairy; body sparsely so.

Fore wings moderately closely ciliate in the disk (about from 12 to 15 rows across the widest part), the discal cilia moderately long and coarse, but not a third as coarse as the marginal cilia, absent directly laterad of the distal end of the marginal vein for over the latter's length and also directly caudad and proximad of the marginal vein, excepting for a single row along side of the caudal edge of the marginal vein, running distad to the ciliated area and another row running obliquely (caudo-distad) across the center of the naked area caudad of the marginal vein, from the latter, including between it and the other row of cilia a V-shaped naked area whose apex points proximad. In this proximal, nearly naked area is also borne a single, distinct, isolated cilium about in its center but nearer the caudal wing margin. Marginal cilia of the fore wing moderate in length, extending completely around the

wing from the marginal vein, but absent proximad (on the caudal margin absent for a farther distance distad); longest along the caudal margin at the distal fifth, shorter at the extremity of the wing and proximad on both margins and shortest proximad at the caudal margin. Fore wings broadest at the distal fifth, the usual dilatation of the caudal margin opposite to the marginal vein and merely a broad convexity; the last, most proximal of the marginal cilia of the caudal margin about equal to the discal cilia. Fore wing oar-shaped, delicately but distinctly fumated, excepting for a single subquadrate transparent area caudad of the submarginal vein; margins of the blade-shaped or main portion of the wing, distad of the venation, dusky yellowish, as is also the venation.

Posterior wings delicately petiolate, feather-shaped, delicately fumated, the petiole slightly less than a fifth the total length of the wing and including most of the venation; distad of the petiole, wing linear but curved, the cephalic margin broadly concave, the caudal margin broadly convex, the blade of the wing obliquely truncate proximad at the petiole and the marginal vein; acuminate. Its marginal cilia complete, those of the caudal margin longest, over twice as long as the wing is wide and twice the size of the cilia of the cephalic margin; discal absent in the proximal half of the blade, excepting the usual inconspicuous, longitudinal double row of them arising from near the bases of the marginal cilia and running distad; in the distal half of the blade but a single row of about from 7-15 running along the center of the blade; this row becomes somewhat confused at the apex.

Scape slightly swollen or convex ventrad, slightly longer than the club, as long as the first and second funicle joints united, twice the length of the pedicel, its dorsal margin but very slightly convex; pedicel obconic, three times the size of the small proximal funicle joint and not more than half the length of the second funicle joint but wider at its apex than any of the funicle joints; proximal funicle joint somewhat like a ring-joint but slightly longer than wide, minute, subglobose, about a fourth or fifth the length of the second funicle joint and somewhat narrower, the smallest antennal joint and conspicuous as such; second funicle joint abruptly longer, the longest antennal joint with the exception of the scape, very slightly longer than funicle joint 3; funicle joints 3 and 4 subequal, each slightly shorter than funicle joint 2 and slightly longer than funicle joints 5 and 6 which are subequal and about a fourth shorter than funicle joint 2; funicle cylindrical, 6-jointed; club ovate, divided obliquely slightly distad of its center, hence 2-jointed, as a whole widest at its middle and somewhat shorter than the combined lengths of the fifth and sixth funicle joints, its greatest width about twice that of the joints of the funicle, its proximal joint obconic, its apex obliquely truncate, longer than the apical joint which is conic, its apex subobtus and its base obliquely truncate. Distal lateral angles of joints 3-6 of the funicle, when seen in outline, slightly acute, the distal margins of these joints acute. Club joints with distinct longitudinal ridges (balsam mounts).

Male.—The same, with the exception of the usual secondary characters pointed out in the generic description.

Antennæ 12-jointed, filiform, longer than the body, the funicle joints not differing abruptly in size, but gradually shorter distad. Pedicel smaller than in the female, obconic, its sides rounded or convex as seen in profile, wider than the proximal funicle joint and not more than half its length; joints 1-8 of the funicle subequal, long, cylindrical, longitudinally carinate, gradually becoming narrower distad, the carinations forming acute points at the distal ends; joint 9 of the funicle slightly shorter, the same; the distal or club joint a third shorter than either of the joints 1 to 8, slightly narrower, carinate and with a slight nipple at the center of its extremity. Scape slenderer than in the female. Antennæ with very fine, moderately close hairs.

($\frac{3}{8}$ -inch objective, 1-inch optic, Bausch and Lomb.)

Types:—*Accession No.* 41651, Illinois State Laboratory of Natural History, Urbana, Illinois, 1 ♀ in xylol-balsam (1 slide), 2 ♂'s tagmounted. (Centralia, Illinois, June 26, 1909.) *Cotype*:—*No.* 12633, U. S. National Museum, Washington, D. C., 1 ♀ in xylol-balsam.

Described from 5 males and 3 females reared June 26 (2 ♂'s, 1 ♀ types), 27 (1 ♂, 1 ♀), 30 (1 ♀) and July 4 (2 ♂'s), 1909, at Centralia, Illinois, from the eggs of the common weevil *Tyloderma foveolatum* (Say) in the stems of the weed *Eriogonum bicolor* Linnæus. The parasite is solitary as shown by dissection, the body of its pupa filling nearly the entire cavity of the host egg. It is not rare in this vicinity.

The foregoing descriptions were made from recently killed specimens, the coloration and sculpture, shape of the head, abdominal segments and so on from unmounted ones, the antennæ, legs and wings being described from specimens mounted in balsam. It should be stated, therefore, that shortly after death, in tag-mounted specimens, the body begins to shrivel, the face shrinks and caves in making the vertex acute and placing the cephalic and lateral ocelli in different aspects, the thorax contracts somewhat and other parts are so warped that it is impossible to make out true relationships after they have been dead several hours.

Anaphes conotracheli Girault, a species closely related to the type species just described, belongs to *Anaphoidca*.